

A NEW SPECIES OF THE GENUS *STENISTOMERA*
(SIPHONAPTERA: HYSTRICHOPSYLLIDAE)

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INTRODUCTION

Examination of fleas obtained from deer mice collected in southeastern Oregon revealed an undescribed species of *Stenistomera* Rothschild 1915. This represents the first time this genus has been recorded for the state. The new species is of special interest since it combines characteristics of form and chaetotaxy used by Good (1942) to separate the subgenera *Stenistomera* and *Miochaeta*, and later by Stark (1958) to elevate *Miochaeta* to the status of a full genus. The present paper describes this new flea and places the genus *Miochaeta* in synonymy.

Genus *Stenistomera* Rothschild, 1915

Stenistomera Rothschild, 1915, p. 307. Type species: *Typhlopsylla alpina* Baker, 1895.

Stenistomera (*Stenistomera*) Good, 1942, p. 133 [new usage].

Stenistomera (*Miochaeta*) Good, 1942, p. 135 [new subgenus].

Miochaeta Stark, 1958, p. 104 [new combination]. Type species: *Stenistomera* (*Miochaeta*) *macroductyla* Good, 1942.

Good (1942) believed that the following morphological differences were sufficient to warrant erection of the subgenera *Stenistomera* and *Miochaeta*: head rounded or slightly angulate in *Miochaeta* not angulate as in *Stenistomera*; all bristles of the head of *Miochaeta* normal in size or only slightly enlarged, not greatly enlarged as in *Stenistomera*; frontal row of spine-like bristles absent on *Miochaeta* that are present on *Stenistomera*.

Stark (1958) reevaluated these differences and elevated the subgenus *Miochaeta* to the status of a full genus.

The new species is in many ways morphologically intermediate between *Stenistomera alpina* (Baker, 1895) and *Miochaeta macroductyla* (Good, 1942) and makes recognition of the subgenera erected by Good and the genus *Miochaeta* as proposed by Stark untenable.

Stenistomera hubbardi, new species.

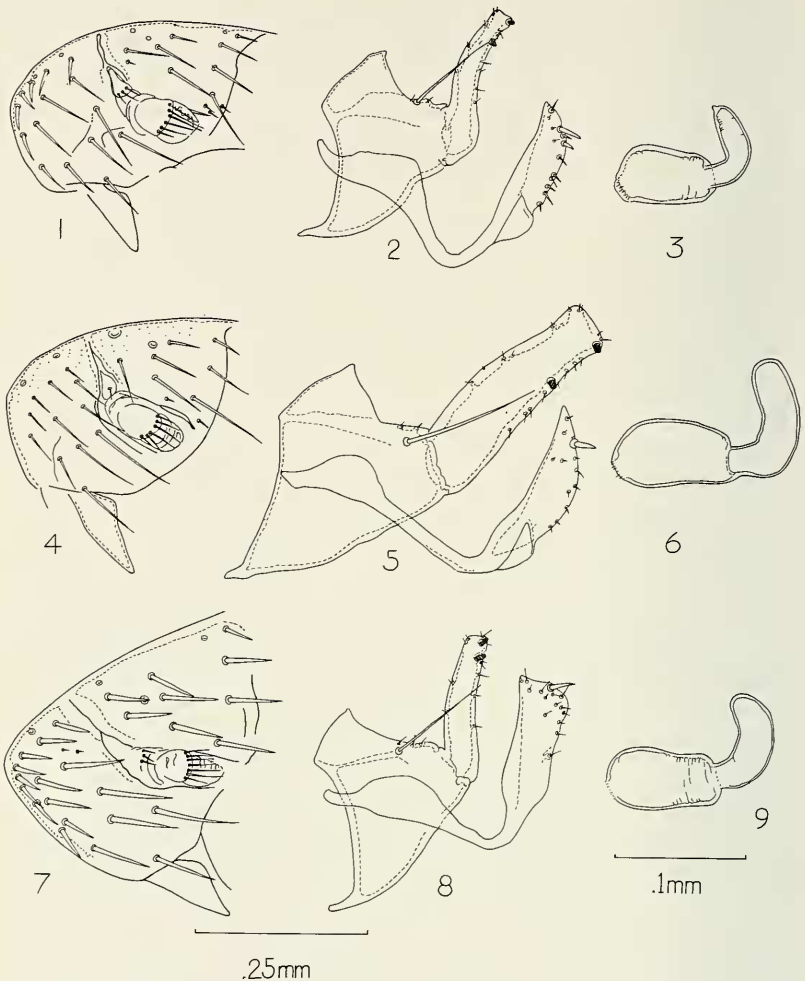
Figures 1-3

Diagnosis: Shares the following characteristics with previously described species: a deep interantennal suture and sheath-like projection

of the second segment of the antennae; several small spiniforms along the anterior margin of the mesonotum under the pronotal comb; abdominal terga II-VI with one row of setae; three antepygidial bristles in both male and female. Resembles *S. alpina* in general shape and size of the movable process of the clasper and presence of a prefrontal row of short, spine-like bristles; and *S. macrodactyla* in the rounded outline of the frons, slender pre- and postantennal bristles on the head, outline of sternum VII in females, and shape of sternum IX in males. Differing from all known species in the number of spiniforms on sternum IX of males and in details of size and structure of the spermatheca as described below.

Head (σ' and ♀). Figure 1. Most of the pre- and postantennal bristles except those along the frons of the holotype are either missing or broken. Judging from positions of the alveoli where missing bristles were attached and by the length and shape of remaining bristles, chaetotaxy of the head is similar for both sexes. Frons rounded, helmet-shaped and similar in outline to *S. macrodactyla* (Fig. 4). Prefrontal row of seven to nine short, tapering, almost spine-like bristles along anterior margin of frons, extending in an elbow-shaped curve almost to the antennae. Other preantennal bristles consist of two slightly irregular frontal rows of about three bristles each and an ocular row of two bristles. Eye absent. Occiput has three rows of one, three and four bristles, respectively. Several small bristles between dorsal edge of antennal fossae and bottom bristle of longest row of postantennal bristles. All principal pre- and postantennal bristles slightly thicker than those of *S. macrodactyla* but not spine-like as in *S. alpina* (Fig. 7). Maxillary palps short, four-segmented, extending about 50 percent of the length of the fore coxa. Pronotal comb of approximately 18 spines in the male and 16 spines in the female. Anterior border of pronotal comb straighter than *S. alpina* but more curved than *S. macrodactyla*.

Modified Abdominal Segments, Male (holotype): Fixed process of the clasper, (Fig. 2) resembling both *S. alpina* (Fig. 8) and *S. macrodactyla* (Fig. 5) in general outline. Movable process similar in size and shape to *S. alpina*, but with more convex anterior and concave posterior margins; two short, thick, blunt, slightly pigmented, subapical spiniforms near the posterior margin, more widely separated than *S. alpina* but closer together than *S. macrodactyla*. One acetabular bristle, similar in length and position to *S. alpina* but more marginal rather than distinctly submarginal in origin. Apical portion of sternum IX tapering less gradually than in *S. macrodactyla*, but lacking the ventral angle of *S. alpina* and bearing two closely spaced, short, sharp, unpigmented, subapical spiniforms of unequal length on the ventral margin; remaining



Figures 1 to 3. *Stenistomera hubbardi*, n. sp. Fig. 1, head of allotype female; Fig. 2, process of clasper and sternite IX, holotype male; Fig. 3, spermatheca of allotype female.

Figures 4 to 6. *Stenistomera macrodactyla*. Fig. 4, head of female; Fig. 5, process of clasper and sternite IX of male; Fig. 6, spermatheca.

Figures 7 to 9. *Stenistomera alpina*. Fig. 7, head of female; Fig. 8, process of clasper and sternite IX of male; Fig. 9, spermatheca.

bristles of sternum IX all small but tending to be thicker at their bases than those of the other two species.

Modified Abdominal Segments, Female (allotype): Outline of sternum VII gently undulating, similar to that of *S. macrodactyla* but bearing fewer bristles and with a slightly deeper sinus and more rounded lobe. Spermatheca (Fig. 3) as in other species (Figs. 6 and 9) but smaller, hilla proportionately more slender and tipped with a distinct papilla.

Size (total length, mounted specimens): Male holotype, 2.0 mm; female allotype, 2.1 mm.

Types. Holotype male and allotype female from a deer mouse, *Peromyscus maniculatus* ssp., Ecology and Epizootology Research host number 16612, collected five miles south of Crane along Highway No. 78, Harney County, Oregon, 23 October 1966, by H. J. Egoscue, original numbers 4173 and 4172, respectively. One paratype, a fragment consisting of head, thorax and proleg, sex unknown but believed to be a male (H. J. E. number 4563) with same data.

The holotype male and allotype female will be deposited in the U.S. National Museum, Washington, D. C. The paratype will remain in the Ecology and Epizootology Research reference collections, University of Utah, Dugway, Utah.

It gives me pleasure to name the species after Dr. C. Andresen Hubbard, in recognition of his numerous contributions to the knowledge of fleas of the western United States.

Discussion: The type locality of *S. hubbardi* is in arid desert country characterized by scanty rainfall and wide annual range in temperatures and is similar ecologically to areas in western Utah where *S. macrodactyla* is found. I believe the general scarcity of *S. macrodactyla* and *S. alpina* in collections can be attributed to the fact that both are winter fleas. Year around collecting in Utah's Bonneville Basin has revealed these species are most numerous on their preferred hosts during colder months but are rare or absent in other seasons. Studies in New Mexico (Morlan, 1955) and southern Nevada (Beck and Allred, 1966) tend to verify winter maxima for *S. alpina* in those areas. *Stenistomera hubbardi* also may reach its maximum abundance in winter, which could explain why it remained undiscovered until now.

The deer mouse may be a chance host of *S. hubbardi*. Some likely possibilities for normal hosts include the desert wood rat, *Neotoma lepida*. Judging from the number of occupied houses, wood rats were common at the type locality of *S. hubbardi*. Despite special efforts to collect them, no wood rats were obtained the one night I spent in the area.

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